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Colonialism and Landscape in the Americas: Material/Conceptual Transformations and Continuing Consequences

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Despite a congenital relationship between colonization and geographic scholarship, and despite the significance of colonial landscape transformation to current social and environmental challenges, a comprehensive geographic theory of colonialism and landscape remains incipient at best. In this article, a historical sketch provides some basic perspective on the scope appropriate to such a theory by outlining how the goals of scholarship on colonial landscape transformation have changed over the last century in relation to social and environmental context. The subsequent analysis compares and contrasts prior and existing conceptualizations of colonialism and landscape, each emphasizing particular elements and relationships at the expense of others but all thus jointly delineating what a more comprehensive framework must include. That analysis provides a preliminary basis for elaborating a comprehensive geographic theory of colonialism and landscape with an immediate focus on the Americas. *Key Words:* colonial triangle, colonization, conservation, development, native ecologies, postcolonial studies, sustainability.

It is clear that, for the most part, they have taken on only the more superficial aspects and values of modern life. Can western civilization offer them no more? (Lewis 1951, 448)

How rare it is when one is in such an “underprivileged,” “backward” country, or wherever life is alien to ours—think of the gall of these almost official designations—to find one of us who is there in order to learn of other ways and options instead of working for the adoption of our own. That such intervention increases or introduces ecologic unbalances receives little notice. (Sauer 1956, 1133)

The lack of anything that even approximates a comprehensive geographic theory of colonialism and landscape seems somewhat astounding at first. Landscape, after all, is a key unit of geographic analysis and its transformation through social/biophysical processes a primary phenomenon of geographic inquiry. At the same time, the establishment of the discipline has been congruent with and inseparable from European colonization, a congenital relationship that presumably should have catalyzed a thorough theorization of the relationship between colonialism and landscape. Beginning in the fifteenth century, as the landscapes of the world successively became geographic objects of European power, landscape became an object of increasingly professionalized geographic knowledge (Stoddart 1986; Livingstone 1992; Godlewska and Smith 1994; Bell, Butlin, and Heffernan 1995). The explorer who textually or cartographically represented landscapes generated

an increment of geographic knowledge at the same time as producing a prospectus and resource for the extension of European power through space (Cormack 1997). Similarly, the colonial bureaucrat who developed techniques to inventory and analyze landscapes refined geographic method at the same time as consolidating European surveillance and control (Butzer 1992). But rather than foster the building of a comprehensive theory to understand the relationship between colonization and landscape transformation, the conjunction of knowledge and power involved in disciplinary genesis seems to have stifled such a project in favor of environmentalistic and teleological justifications for colonialism (Keller 1908; Bowman 1931). In hindsight, then, the suppression of a thorough theorization of colonialism and landscape is not very astounding after all. That suppression has persisted well into the postcolonial period, well beyond the waning of sovereign European control of colonies, so that “settler geographers” have continued to labor under and perpetuate colonial fusions of knowledge and power even while rebelling against them (Harris 1997, 194–95). Only relatively recently, stimulated by the blossoming of self-critical Western intellectual movements such as postcolonial studies, has a comprehensive effort to theorize the relationship between colonialism and landscape even begun to achieve momentum.

Practical imperatives suggest that such a project is well overdue. The scope and magnitude of colonial landscape transformations have ensured their continuing

consequences for some of our greatest postcolonial challenges, such as achieving global social and environmental well-being (Porter and Sheppard 1998). Throughout the Americas, to use one of the major colonial realms as an example, native depopulation due to epidemics and the introduction of exotic biota, technologies, institutions, and ideas transformed landscapes on a scale and to a degree unprecedented since the retreat of the continental ice sheets (Wolf 1982; Crosby 1986). With a sometimes subtle but nonetheless powerful inertia, material landscape transformations have continued to affect postcolonial land uses that relate to, for example, food production and biodiversity. In the Valle de Mezquital, to take one striking case, overgrazing so eroded soils that current agricultural options remain severely limited (Melville 1994). Just to the south, in the Basin of Mexico, drainage of the lakes that ringed the Aztec city of Tenochtitlán has had even more dire continuing consequences, not the least of which has been near complete destruction of the highly productive *chinampa* agroecosystem (Sluyter 1994). Conceptual landscape transformations (“ideological,” “discursive,” “symbolic,” and so on¹) equally continue to affect postcolonial land uses. Planners now categorize regions that had dense precolonial populations, such as Valle de Mezquital, as having a “naturally impoverished resource base” that limits agricultural productivity. Entire categories of landscape that were agriculturally productive before colonization have become reconceived as “wastelands” (Sluyter 1999). For example, natives from Mexico to Bolivia long favored tropical wetlands as foci of highly productive agricultural systems and dense settlement; Westerners think of the same environments as nasty tropical swamps that need to be claimed (or, rather strangely, *reclaimed*, as if they had been lost) through drainage projects (Denevan 1992a; Siemens 1998). Since, as a general rule, inadequate theorization of process results in misformulation of policy, a theory that facilitates understanding such colonial landscape transformations and their continuing consequences remains one of geography’s most significant obligations.

Yet, despite that practical imperative and increasing self-critical reflection on geography’s congenital relationship with colonialism, nothing exists that even resembles a comprehensive theory relating landscape transformation to colonization. If even a preliminary plan for such a project existed, some progress might be apparent under the rubrics of cultural or political geography, of cultural or political ecology. None is apparent, neither progress nor even preliminary plan (Duncan 1993, 1994, 1995; Smith 1994; Mathewson 1998, 1999).

This brief essay, therefore, can be no more than a proposal for filling a vast yet compelling theoretical lacuna. In that spirit, the following first seeks some basic perspective on the scope appropriate to such a theory by outlining how the goals of scholarship on colonial landscape transformation have changed in relation to social and environmental context. This historical sketch focuses on the Americas in order to maintain rigor by staying close to places and literatures most familiar to me. It focuses on the development and environmental conservation literature in order to maintain connection with the practical imperative of achieving social/environmental well-being. And it focuses on the nonurban landscapes that literature has tended to emphasize in geography, not necessarily so but as a function of intellectual and institutional genealogy (Butzer 1989). With the project’s scope thus specified and historically contextualized, the subsequent analysis compares and contrasts prior and existing conceptualizations of colonialism and landscape. Each such theoretical framework has emphasized particular elements and relationships at the expense of others, and thus they jointly yield insights into what a more comprehensive framework must include. Again, and for the same reasons, that analysis maintains a focus on the Americas and nonurban landscapes. That analysis then provides the basis for elaborating a comprehensive geographic theory that relates colonization and landscape in the Americas, or at least a preliminary plan for working toward such a theory.

Historical Sketch of Changing Goals

With the vast reduction of European sovereign power in the Americas in the nineteenth century, mainstream geographers studied the process of colonization as an environmentally determined teleological progression, as one stage in a sequence leading to naturally dominant, Western landscapes (Keller 1908; Bowman 1931; Godlewska and Smith 1994). *The Western Invasions of the Pacific and Its Continents: A Study of Moving Frontiers and Changing Landscapes* (Price 1963) provides a prominent illustration of the mature version of that genre by one of its leading scholars, Sir A. Grenfell Price. In that monograph and elsewhere, Price naturalized colonial landscapes with the goal of justifying and perpetuating associated power relationships (Powell 1982). For such geographers, the benefits of colonization far outweighed the costs, and the greatest benefits of all clearly accrued to the colonized, with the colonizers bearing the burden of Westernizing the world. An ethnocentric axiom underpins such complicity with dominant social struc-

tures, clear enough in hindsight: colonization Westernized non-European peoples and their landscapes, thereby improving them—a bias encapsulated by the phrase “West is best.” From that axiom, deductive logic invariably leads to the conclusion that continued Westernization will further improve former colonies, even if implemented by politically independent settler colonists or Westernized natives rather than through continued European sovereignty. The effective result, and often the explicit goal, has been to perpetuate colonial power relations into the postcolonial period, one thus termed (post)colonial by some (Gregory 1994, 168–195; Wolfe 1997; King 1999).

Those who criticized such teleological study of colonization-as-natural-progression remained on the intellectual periphery. A romanticist critique, of course, has long paired disapproval of everything Western with approval of everything else, particularly of an idealized precolonial landscape (Sale 1990). Yet that romanticist belief in a precolonial “unspoiled wilderness” is as Eurocentric as the complementary modernist belief in “unexploited resources” (Willems-Braun 1997). Both beliefs draw on and reaffirm the Western “myth of emptiness,” termed the “pristine myth” in relation to the Americas, that erroneously characterizes precolonial landscapes as having lacked dense populations and productive land uses (Denevan 1992a; Blaut 1993). In contrast, Carl Sauer early and persistently attempted to demonstrate just how profoundly native peoples had modified the precolonial landscapes of the Americas and that Westernization itself had caused any apparent “backwardness.” The Eurocentricism of such ostensibly objective categories as “underprivileged” and “backward”—“think of the gall of these almost official designations”—clearly irked him (Sauer 1956, 1133). Yet that early and much needed “corrective to our romantic self-approval as to the process of European colonization” went largely unheeded (Sauer 1938a, 495; Sauer 1938b). As an advisor to the Rockefeller Foundation during the 1940s, Sauer argued for the importance of respecting local ecological knowledge, yet such international development organizations and host governments nonetheless attempted to industrialize agricultural practice and homogenize crop biodiversity (Jennings 1988, 50–56). As Oscar Lewis lamented on behalf of that mainstream, “Can western civilization offer them no more?” (Lewis 1951, 448).

The mainstream began to become more critical of Westernization only as incontrovertible demonstrations of the global *Limits to Growth* (Meadows et al. 1972) undermined the long-standing belief that environmental constraints would fade away as development progressed towards a Western *telos*, whether defined according to

ideologies complicit with or critical of capitalism (Spengler 1961; Rosenberg 1982; Lowenthal 1990; Porter and Sheppard 1998). As evidence has mounted of the negative social/environmental consequences of Westernization its seemingly inescapable contradictions, several generations of geographers and allied scholars have built a case to demonstrate that the non-West was not and is not inferior to the West. One major goal of that effort has been to test the hypothesis that the precolonial landscapes of the Americas were densely populated, intensively cultivated, and profoundly modified rather than pristine wilderness/untrammelled resources and thereby to infer the productivity and sustainability of native land uses (Denevan 1992a; McCann 1999a, 1999b). A complementary goal has been to understand the dynamism, sophistication, and productivity of the ecologies, typically but not exclusively agroecologies, of living natives (Wilken 1987; Berkes 1999). In this context, “native” does not so much designate any particular ethnicity as it does an intimate familiarity with a system of production and consumption rooted in the dynamic realities of a particular place—a “folkecology” or “vernacular ecology” that people create over many generations of local tenure or come to share in by learning from those with such tenure (Hecht and Cockburn 1989; Jackson 1994; Atran et al. 1999). Such research on both past and present landscapes has stimulated alternatives to Western development models, and consequently a third goal has been to redeploy, perpetuate, and test native ecologies (Smith 1987; Browder 1989; Sluyter 1994; Warren, Slikkerveer, and Brokensha 1995). Often the same scholars have been involved in all three efforts, perhaps least problematically termed historical ecology, ethnoecology, and applied ecology, and many of them have been influenced by Sauer’s insight that Westernization precipitates the very social/environmental problems that its agents claim to be solving.

Yet despite those efforts, which are steadily advancing understanding of both historical and contemporary native landscapes and ecologies, the overall goal of downgrading the diffusion of Western technologies, measures of success, and institutions to but one option among many has been no more than minimally achieved. What some term “traditional ecological knowledge” (TEK) has indeed achieved acceptance and even inclusion in such key documents as the *Rio Declaration* and *Agenda 21* (Carruthers 1997, 260–62). Yet for the mainstream, non-Western knowledges remain in the realm of utilitarian “ethnoscience,” subsumed by rather than equal to the putatively transcultural and therefore objective “real science” of the West (Latour 1993). As the “traditional” that leads

the acronym suggests, TEK projects view the West as dynamic and advanced, the Rest as static and traditional, and typically co-opt specific non-Western knowledges and practices (often related to plants), decontextualize them, eliminate their dynamism, and negotiate the terms of their commodification (Sachs 1992; Redclift and Benton 1994; Escobar 1995). Thus, while the institutional changes seem remarkably radical relative to just a generation ago, Western goals and ways of achieving them remain dominant over native ones, although arguably at a more basic and therefore subtler epistemological level.

Better understanding of the reasons for that continued dominance has emerged only relatively recently, together with self-critical Western intellectual movements that have emphasized the importance of culture, demonstrated the indivisibility of knowledge/power, decoded (post)colonial scientific and other discourses, and thereby revealed deeply taken-for-granted epistemological assumptions (Said 1979, 1993; Spivak 1988; Klor de Alva 1995; Wolfe 1997; King 1999). Clearly Westernization continues to dominate in part because diffusion remains materially profitable for the diffusors—for Westerners (Peet and Watts 1996). Yet, just as significantly, the Western myth of emptiness validates that very economic profitability and its political and legal corollaries by privileging diffusion from the West into the supposed vacuum of the non-West. That key element of what Blaut has termed “the colonizer’s model of the world” emerged as the colonial redistribution of global resources, labor, and capital became naturalized and justified through a concomitant conceptual redistribution of categories: the West became categorized as advanced and dynamic in contrast to a backward and static non-West, Europe thus becoming the source of everything good and non-Europe becoming empty, pristine, and puerile (Said 1979; Wolf 1982; Adas 1989; Blaut 1993). The myth of emptiness thus became a foundational categorization in the definition of the West as distinct from and superior to the non-West, an opposition intrinsic to the existence of the West *qua* West. The economics, politics, and culture of Westernization became mutually reinforcing. And myths of emptiness, such as the pristine myth, became so indurated as to resist erosion by the accumulation of much contrary evidence (Turner and Butzer 1992; Blaut 1993; Perry 1996). The foundational myths of other cultures display similar persistence, of course, the critical difference being the global extent over which the West’s mythology has come to have such an impact (Latour 1993).

That global significance, intractability, and insights derived from postcolonial studies have combined to stimulate research on the colonial landscape transforma-

tions through which the categories that constitute myths of emptiness have emerged and persisted, categories such as “wilderness” and “forest primeval” (Sluyter 1999). The methods of textual analysis used in the field of postcolonial studies to explicate the emergence of other Eurocentric categories such as “the Orient” would seem to apply equally to understanding the emergence of categories such as “forest primeval” (Said 1979). Moreover, commonalities between the geographic effort and postcolonial studies would seem to facilitate such methodological borrowing. Both are critical of Eurocentricism and rampant Westernization. Both are entangled but far from synonymous with ongoing critiques of capitalism from economic, ecological, and ideological angles (O’Connor 1994; Peet and Watts 1996; Wolfe 1997). And both have gained credence as the negative social/environmental consequences of Westernization have mounted. Nonetheless, transfers of method remain far from straightforward; the field of postcolonial studies has tended to ignore material processes and landscapes, while ecological geographers, even those explicitly concerned with culture (and despite some notable exceptions), have tended to emphasize material aspects of landscape (Sauer 1966; Butzer 1989; Hecht and Cockburn 1989). While ignoring material process might be appropriate in literary criticism, such ethereal analysis certainly falls flat when ingenuously transferred to the analysis of landscape transformations involving processes as clearly biophysical as growing food and clearing forests, no matter how indubitably they also involve social processes, including conceptual ones (Sluyter 1997). Nonetheless, the work of cultural geographers provides much direction for adapting textual analysis to bricks and mortar through demonstrating how landscape patterns are both material and conceptual, constitute both physical infrastructure and symbolic communication, and simultaneously result from and influence transformative processes such as human labor and categorization (Duncan 1990; Cosgrove 1993; Mitchell 1996; King 1999). While the focus of such human geography has been on thoroughly architectonic landscapes that de-emphasize biophysical processes, the theoretical framework nonetheless provides a basis for studying linked material and conceptual landscape transformations that involve social/biophysical processes as nonurban as terracing mountain slopes and herding livestock. The landscape ecology framework that has emerged among biological ecologists, in which landscape patterning both results from “disturbances” and mediates further transformations, somewhat parallels cultural landscape theory but does not encompass conceptual processes (Zimmerer 1994; Pickett and Cadenasso 1995).

Drawing on that emerging theoretical convergence, a study of the tropical lowlands of Veracruz, Mexico has revealed interwoven social and biophysical processes that transformed that landscape, both materially and conceptually, while simultaneously obscuring the transformation (Sluyter 1999). Disease introductions resulted in native depopulation and old-field succession of former agricultural lands. Recategorization of agricultural fields as wasteland facilitated conversion to pasture and preemption of native population recovery. Further vegetation succession incrementally obscured the native cultural landscape and visually validated categorization as wilderness in a regional version of the pristine myth. That material/conceptual transformation has made possible the persistent belief in a progression from precolonial wilderness through colonial cattle pasture to postcolonial irrigation of sugar cane. Yet, given that natives had densely settled and productively cultivated the precolonial landscape, the actual narrative should be one of recovery at best and declension at worst—hardly one of “heroic progress through Westernization.” Cronon (1983) has suggested that human-vegetation interactions also played a key role in the material/conceptual transformation of the New England landscape, with recategorization as “forest primeval” stimulated by native depopulation, cessation of the regular burning of forests by natives, and consequent vegetation succession to later successional species and a denser, darker, more “primordial” forest. Despite a focus on social rather than social/biophysical processes, a conclusion drawn from an urban context seems apt enough: landscape acts as a “visual vehicle of subtle and gradual inculcation . . . to make what is patently cultural appear as if it were natural” (Duncan 1990, 19).

Thus sketching out the changing goals of pertinent research over the last century provides some perspective on the present intellectual juncture, its relationship to social and environmental context, and thus the appropriate scope and goals of a comprehensive geographic theory of colonialism and landscape. Clearly it must address colonial landscape transformations as seminal to current social/environmental challenges rather than as esoteric history (Sluyter 2000). It must treat material/conceptual transformation as a unified process. And it must encompass the social/biophysical processes, particularly those involved in human-vegetation interactions that seem to be so critical to the material-conceptual feedbacks that naturalize and obscure landscape transformations. In Veracruz, for example, recognizing that the progressive fragmentation and old-field succession of agricultural patches in a matrix of moribund cultural savanna itself visually ratified the Spanish land-use categories that precipitated those processes is essential to understanding how space accumulation could proceed despite legislation genuinely intended

to protect native communities and—far from incidentally—the Crown’s tax base. In the highly architectonic contexts of urban or ceremonial landscapes, more purely social processes might dominate.

A theoretical framework that might encompass such goals remains far less clear than the goals themselves. On the basis of research on the colonial Caribbean, Hulme (1992) has observed that the essence of the colonization process consists of a three-way, or triangular, relationship among three elements: European, native, and land. He did not elaborate on, systematically apply, test, or even sketch out that colonial triangle, but it does in fact seem to encompass the three elements essential to any colonial transformation of landscape. Based on the Veracruz study, I have previously suggested that a slight modification of this “colonial triangle” might provide an appropriate conceptualization of the relationship between colonialism and landscape (Sluyter 1999). With slight modification—namely, the replacement of “land” with “landscape”—the colonial triangle might provide a basis for conceptualizing a comprehensive geographic theory of colonial landscape transformation (Figure 1). Land is certainly an appropriate and adequate category to signify the environment that natives and Europeans struggle over, the resources such as soil, vegetation, animals, minerals, and water. Yet, more than simply control over environment, the struggle revolves around control over space, over territories—over landscapes. In some cases that struggle is for control over a contiguous area of resources, as in the agricultural colony of New England. In other cases that struggle is for control over commercial nodes and transport corridors, as with the Hudson’s Bay Company, whose objective was to extract a dispersed resource—furs—through trading posts, waterways, and portages. In still other cases that struggle is for control over resource nodes and labor distribution, as on Hispaniola, where the objective was to extract a nucleated resource—gold—by congregating natives at placers. At

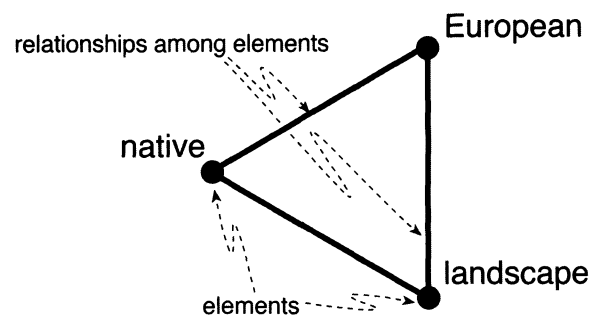


Figure 1. Modified colonial triangle proposed as encompassing the essential elements and relationships involved in colonial landscape transformation (Sluyter 1999).

the same time as being an object of control, however, space is a medium through which the struggle for control takes place, the spatial strategies of domination and resistance that ultimately resulted in a landscape of Indian reservations in the U.S. being one relevant example (Hannah 1993). The redefinition of Hulme's land element as landscape thus is doubly essential, to indicate both conflict *over* space and conflict *through* space.

Analysis of Prior and Existing Conceptualizations

That modified colonial triangle provides a preliminary framework that permits consistent comparison among conceptualizations of colonialism and landscape, some actively held and some now largely considered passé. Each such theoretical framework emphasizes particular elements and relationships at the expense of others, and thus they reveal each other's strengths and weaknesses. At the same time, they jointly yield insights into what a comprehensive framework must include and thereby test how robust the colonial triangle actually might be. The goal is theory rather than history. In order to achieve the breadth and balance necessary to formulate comprehensive theory, the imperative throughout is to select across the range of conceptualizations and to analyze rather than to provide a descriptive literature review. Moreover, the focus on landscape, on nonurban contexts, and on the Americas continues to dominate (but see Perry 1996; Wolfe 1997; King 1999). The somewhat chronological order of analysis does not necessarily imply continuous progress in understanding. Differing emphases provide different insights or lessons, and although ideally the overall tendency of scholarship should be cumulative, some understandings become obscured as others are gained or, in many cases, regained but disguised by new jargon (Sluyter 1997; Turner 1997).

Environmental Determinism

As academic geography came to fruition a century ago, the analytic framework consisted of classifying colonialism according to economic criteria and correlating the resulting categories with environmental categories. The most basic studies correlated the farm colony, or settler colonization, with temperate latitudes and the plantation colony with tropical latitudes (Keller 1908). Attempts at greater sophistication introduced more categories: colonies of permanent settlement, or *colonies de peuplement* or *d'enracinement*; economic colonization, or *colonies d'exploitation* or *d'encadrement*; and strategic colonies, or

colonies de position (Church 1951, 26–27). Presumed natural variation in resources and particularly in climate determined variation among the political economies of colonizers, differentiated the overall teleological processes of Westernization, and thus created variation among the morphologies of colonial landscapes. The colonial triangle encompasses this conceptualization (Figure 2).

Environmental determinism clearly dominated such “explanations,” hand-in-hand with a racism that included natives in the environment. Settler colonization characterized the Americas because “the whites encountered in those lands large areas which possessed suitable climates for their settlements—weak, divided, and, in most regions, sparsely settled native peoples, and adequate natural resources for future development” (Price 1963, 62). In contrast, sojourner colonization occurred when “climatic conditions in lands such as Burma, the immense weight of vast indigenous populations as in Japan, or a combination of both factors as in India and Indonesia, kept the white exotic, and still more his wife and children, as visitors rather than as the settlers which they became in temperate and sparsely populated lands” (Price 1963, 105). By lumping the native and landscape elements under the label of environment, the framework made native peoples into non-humans. It emphasized the environment as determinative of human-environment interactions. And it subordinated the reciprocal processes through which Europeans modified environment (natives and landscapes) to environmental determination, as the relative line-weights of the arrows in Figure 2 indicate.

The resulting generalizations were long on justifying colonialism as a natural condition and short on explaining colonization as a process of conflict between natives and Europeans over and through landscape. Settler colonization of temperate lands, whether in the midlatitudes

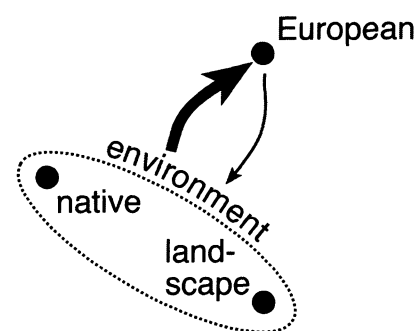


Figure 2. Conceptual structure that assumes environment is determinative. In this and subsequent figures, relative line-weights of arrows indicate relative conceptual importance given to processes.

or at elevation in the tropics, became a natural process, unquestionably proper and progressive (Bowman 1931). The establishment of plantations in the tropics was a natural consequence of their climate just as the dispossession and suffering of natives was a natural consequence of their being native, a categorical condition rather than a relationship. Since natives were lumped with landscape under the rubric of environment, by definition the precolonial landscape had to be pristine and European colonialism had to be all-natural.

Cultural Determinism

The overt racism that underpinned that environmentalistic framework has not endured as broadly as has the faith in progress through Westernization and the associated attempt to correlate categories of colonization with categories of landscape morphology. As part of the backlash against environmental determinism, human geographers turned towards analysis that focused on the cultures of the European colonizers rather than on the environments of the colonies. Subordination of the study of social/biophysical processes to environmental determinism metamorphosed into subordination to cultural determinism (Duncan 1980). In particular, Turner's frontier thesis and Hartz's simplification thesis influenced this new way of discerning general patterns in types of colonization and resulting landscape morphologies (see, e.g., Meinig 1993, 258–64; Harris 1997, 254–56). Turner emphasized the transformation of European social structure through adaptation to economic conditions radically different from those of Europe. In the case of the U.S., the relatively low cost of land and high cost of labor along the frontier proved inimical to feudal relations and transformed colonial society (exclusive of natives) into a democracy of independent farmers. Hartz also emphasized the transformation of European social structure, but ascribed it to selective migration of social elements rather than to adaptation to new conditions. A feudal fragment dominated New Spain and a liberal bourgeois one New England because of the conditions in Spain and England during colonization and the social groups that dominated the process in each case. The Turnerian and Hartzian "explanations" being as complimentary as their biological analogs, namely adaptation and the founder effect, geographers employed varying admixtures of the two to conceptualize the relationship between colonialism and landscape.

Nonetheless, no matter what the theoretical basis for the rejection of environmental determinism—whether Turnerian, Hartzian, or both—categorical and teleological thinking persisted. The focus on the internal dynamics of

European society continued to lump natives and landscape together under "environment" just as surely as had environmental determinism. But that environment now became a stage for the unfolding drama of the emergence of colonial and national society rather than a determining variable. Landscape morphologies became the imprints of a process of social transformation intrinsic to categories of European society—French, English, and Spanish destinies made manifest. Thus, the attenuated networks characteristic of the French and English "Boreal Riverine Empires" eventually transformed into "Settler Empires" as the frontier of "cheap land and dear labor" moved Westward and left behind a progression of social structures and their landscape corollaries (Meinig 1969). In contrast, the general landscape morphology of Spain's "Continental Empire" supposedly emerged in the wake of a moving political frontier that left behind contiguous economic, settlement, and transportation systems presumed to be similar in process and pattern to the Iberian Reconquista (Meinig 1969). Turnerian social adaptation-dominated explanations applied north of the Rio Grande and Hartzian social simplification to the south, but in both cases the status of independent variable was transferred from the lumped native and landscape elements to the European element. Environmentalism had become culturism.

Again, the colonial triangle encompasses this theoretical framework (Figure 3). The conceptual configuration remains unchanged from environmental determinism except that the determinative arrow is reversed, in hindsight really more of a *volte-face* than a metamorphosis. By emphasizing the internal dynamics of European society as the transformative force, the lack of epistemological separation between the native and landscape elements continued. In what became the U.S., European society supposedly progressed and "in the process" transformed the environment, including natives and landscapes. The reciprocal processes through which natives and land-

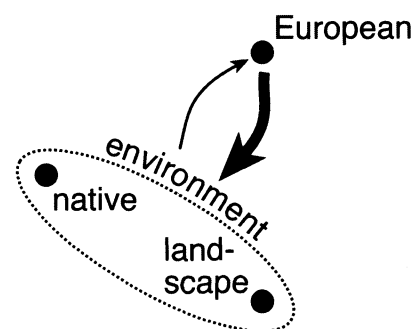


Figure 3. Conceptual structure that assumes European culture is determinative.

scapes transformed Europeans became conceptually subordinate. For example, the abundant land of the frontier merely released the democratic social structure intrinsic to human nature that until then had been suppressed by feudalism. The resulting progression of landscape morphologies left in the wake of the frontier became identifiably more Western with time as well as with decreasing distance from Europe: from the “traditional system” of “palisaded villages,” “seasonal camps,” and “tribal societies” to eventual integration with the “modern world system” of “central place infilling,” “complete occupance,” and “civic leadership” (Vance 1970; Meinig 1986, 258–66; 1993, 262–63). Despite such countries as Mexico, Brazil, and Argentina all having had frontiers, the same logic apparently did not apply to Latin America. Instead, Hartzian “explanations” justified preconceptions of landscapes south of the Río Bravo del Norte as being the result of a static, feudal implant rather than of a progressive adaptation.

As is characteristic of the congenital, often complicit relationship between geography and colonialism, such a framework integrates with the pristine myth just as effortlessly as does environmental determinism. No part of the political spectrum has held a monopoly on such Eurocentricism and modernist teleology. If some could argue that through Westernization “traditional societies” would “take off” and eventually “catch up” to the West, then others could argue for a similar progression through “primitive accumulation” and “advanced capitalism,” albeit with a somewhat different *telos* in mind (Denoon 1983; Adas 1989, 411–16). In both cases the transformation of natives and landscapes is immanent to Europeans, who are assumed to arrive in North America, for example, with “capitalism in their bones” (Baran 1973, 273). In both cases, the eighteenth-century Linnaean typology of *Homo sapiens* remains evident and European superiority is naturalized, codified, and axiomatic: Europeans are fair, sanguine, brawny, and governed by consciously formulated laws that rise above brute nature; Native Americans are copper-colored, choleric, erect, and regulated by mere customs and myths.² Noble savages thus blend into a primordial wilderness that, in the case of the U.S., formed a blank page on which an egalitarian nation of rugged individualists could inscribe a homegrown progression of landscape morphologies, taking them through the stages of social evolution so rapidly as to be exceptional. In going from wilderness to civilization in two centuries flat, that “Midas culture” (Sluyter 1999, 381) turned North America into not only a part of the West but, many argue, the *best* part of the West. In that view, the precolonial native landscape barely existed; it was a pristine stage that only became dynamic and progressive with

European colonization. Particular categories of landscape morphologies simply correlated with their respective categories of colonizers—French, English, Spanish, and so on—the social/biophysical processes involved seemingly not of interest (Pollock 1980).

Ethnohistoricism

Only with the emergence of ethnohistory does analysis of natives as agents in the colonization process even begin to become possible. The proximate origin of such ethnohistorical approaches in the U.S. dates to the Great Depression and New Deal. In order to allow the emerging welfare state to assimilate natives into its social engineering model, the Social Science Research Council of the 1930s began to promote “acculturation studies” that combined oral history and archival research (Meyer and Klein 1998, 184–85). Through integrating diverse types of field and archival data, this research began to dispel the representation of the precolonial Americas as a primordial wilderness sparsely inhabited and little altered by native peoples. While George Catlin, who helped to forge the image of the noble savage in the nineteenth century, conjectured sixteen million as the contact-period population of North America (Catlin [1844] 1973, 1:1, 6), that figure came to seem unreasonably high to most scholars of the first half of the twentieth century, even for North, Middle, and South America combined. Then, with a controversially high estimate of half a million for northwestern Mexico alone, Carl Sauer initiated a continuing tradition of scholarship that now places the late precolonial hemispheric population at some fifty million (Sauer 1935; Denevan 1992b). Neither a Lost Tribe of Israel nor Nabataens had built the pyramids among the savages of the American wilderness, as had seemed axiomatic for so long. The archival records, the clear architectural vestiges, the less discernible agricultural vestiges, and the vegetation itself have all increasingly confirmed that the landscapes of the Americas before Europe were not pristine at all: they had long been densely inhabited and profoundly modified by native peoples (Denevan 1992a).

When natives escalated their claims after World War II for access to resources, demand for ethnohistorical research greatly increased, but for studies related to land tenure and ethnogenesis rather than acculturation. In combination with the civil rights movements of the 1960s, the founding of the American Society for Ethnohistory and its journal *Ethnohistory* in the early 1950s consolidated that trend. The multidisciplinary field of ethnohistory became institutionalized in the U.S. and more broadly throughout the Americas. The essential applied rationale became to reconstruct ethnogenesis,

population, settlement and resource-use patterns, cosmologies, treaty boundaries, and other factors that bear on claims to territory, resources, and knowledge (Aschmann 1974; Hecht and Cockburn 1989; Escobar 1998; Berkes 1999). Concomitantly, the essential academic rationale became to recover the histories of native peoples and thereby redefine them as active agents (Leon-Portilla 1959; Gibson 1964; Nash 1974).

However, some recent and prominent analyses of colonialism and landscape, though clearly influenced by ethnohistory, only hint at native agency, even in social processes, let alone biophysical ones. Thus, while Meinig (1986, 65–76) models landscape morphologies that resulted from different types of interactions between natives and Europeans, he simply correlates each type of interaction with a particular category of Europeans: English, French, or Iberian. “Expulsion,” as that which took place in early Virginia, resulted in a frontier that excluded natives from European territory. “Articulation,” exemplified by the situation in New France, resulted in a permeable frontier and benign interaction between natives and Europeans at trading centers. “Stratification,” as it occurred in New Spain, resulted in relatively thorough “racial and cultural mixture and fusion” (Meinig 1986, 72). That framework applies equally to studies of material and conceptual landscape transformation. For example, Bowden (1992), in the most comprehensive study of the emergence of the pristine myth in the U.S., greatly emphasizes the imposition of ideology on landscape and natives by European and Euro-American elites.

In terms of the colonial triangle, such conceptualizations no longer blend natives and landscape together into a necessarily pristine environment (Figure 4). Natives and landscape become distinct elements related through transformative processes. Yet environmental de-

terminism resurfaces, selectively applied to the relationship between natives and landscape. In this framework, the landscape’s biophysical characteristics determine native social structures; the reciprocal processes through which natives modify vegetation and hydrology are subordinate and environmentally determined. Moreover, by continuing to emphasize the transformation of European society through an internal dynamic released by the colonization process, this conceptual framework continues to credit Europeans with determining the transformation of both natives and landscapes. The reciprocal processes through which the native and landscape elements transform the European element remain subordinate. The intrinsic nature of the colonizer remains the ultimate determinant. Under ethnohistoricism, the precolonial landscape thus remains largely pristine, a wild nature that determined the characteristics of natives and only became ordered when Europeans arrived to tame it. The very prefix “ethno” signals a lesser type of history, one of esoteric interest but a minor subfield and peripheral to real Euro-history.

Postcolonialism

Influenced by postcolonial studies, Harris has recently reconceptualized the relationship between colonization and landscape and thereby substantially altered the ethnohistorical framework (Harris 1991, 1997). Even in a lengthy collection of linked essays on *The Resettlement of British Columbia*, however, he fails to make his conceptual framework explicit, self-critically consider the categories involved, or systematically apply and test their rigor. Yet his implicit framework structures an empirical effort that uncovers much evidence for potentially equal, reciprocal interactions among the native, landscape, and European elements of the colonial triangle, substantially increasing the agency typically attributed to native peoples in the colonization process as well as the “agency” through which landscape patterns mediate the processes that transform those patterns.

To illustrate, Harris begins with smallpox. As elsewhere in the Americas, epidemic disease caused a native depopulation of some 90 percent in colonial British Columbia (B.C.) and is basic to any understanding of the process. Harris (1994, 1997) therefore reconstructs precolonial population, native depopulation and desettlement, and European resettlement. At their most essential, the epidemics consisted of a relationship between European and native elements in which the former introduced smallpox and other exotic pathogens and the latter died due to a lack of antibodies—an inexorable and unidirectional impact by Europeans on natives.

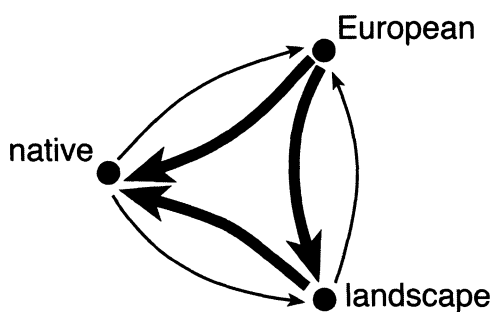


Figure 4. Conceptual structure that achieves epistemological separation of native and landscape elements, even while assuming native agency is inconsequential relative to European agency, environment is determinative along the native-landscape side of the triangle, and therefore the result of the colonization is largely immaterial to Europeans.

Harris soon begins to elaborate on this basic understanding—on this overly simplistic focus on the biophysical, the epidemiological, and the demographic—to draw in relationships with landscape and social processes (and therefore social responsibilities). At higher resolutions, both temporal and spatial, the process of native desettlement and European resettlement begins to appear more complex and interactive among all three elements and to appear to involve both material and conceptual processes.

The Fraser Canyon, where the Fraser River slices through the mountains some hundred kilometers up-country from its delta near Vancouver, has been the focus of much of Harris' recent research and provides the evidence for more complex interactions among natives, Europeans, and landscape (Harris 1997, 103–36). When Simon Fraser came down the river on his way to the Pacific in 1808, thousands of natives lived in a series of towns along the canyon, one of the most densely settled regions of precolonial B.C. Introduced diseases devastated the native population in repeated epidemics. With the Cariboo Gold Rush of 1858, Europeans (and Euro-Americans) swarmed up the canyon to establish placer operations on bars and terraces where the surviving native population remained settled. As the firepower of the miners overwhelmed the natives, colonial bureaucrats began to regulate the gold rush and processes other than reciprocal physical violence became dominant. Through processes such as the application of property law, Europeans rapidly reconceptualized native spaces into parcels of private property, made material on the landscape through surveying and fencing. That dramatic material/conceptual transformation, as represented on paper by cadastral maps and as lived by people in a landscape of "Trespassers Shot" signs, affected native practices by limiting daily and seasonal access to a spatially and temporally dispersed suite of resources. The establishment of Indian reservations epitomized that transformation, making possible the control of natives by Europeans through a process of spatial congregation, fixation, and enumeration. The transcripts of the inquiries of the Royal Commission on Indian Affairs reveal native conceptual resistance to such control. Natives met imposition of exotic spatial categories such as acres with claims, real or feigned, of not understanding such rigid areal measures, appropriate as fixed categories in the machinery of state control but not for living with the fluid ecology of the canyon. When bureaucrats irrationally "enjoined Natives 'to help themselves and obey the instructions of the Indian agent,' self-reliance and submission apparently going hand in hand" (Harris 1997, 132), natives used irony to try to shift and expand the terms of reference. Thus "Patrick," a native of Boston

Bar, seeing that rational argument had no chance given the myths that Europeans labored under, tried hyperbole to shock the commissioners out of their self-congratulatory categories: "It is as though Christ himself has come, when the Duke of Connaught sent you here to investigate our conditions. . . . I shall now endeavour to speak to you, just as if I were speaking to God Almighty. So that now, my conditions will be improved, and I will never have any cause to be sorry in the future" (quoted in Harris 1997, 133). Irony invariably being wasted on bureaucrats, natives would come to have much more cause for regret.

The conceptual framework implicit in Harris's analysis more closely conforms to a comprehensive and balanced colonial triangle than do environmental determinism, cultural determinism, or ethnohistoricism (Figure 5). He reveals potentially equal, reciprocal, material/conceptual processes interrelating all three elements. Materially, Europeans introduced disease; natives died and desettled the landscape; Europeans resettled and built fences. Conceptually, Europeans divided the landscape into enumerated parcels of private property plotted on cadastral maps, and natives employed irony to struggle against the cartographic terms of reference that the material fences and "Trespassers Shot" signs validated.

However, Harris himself (1997, xiv–xv) notes a methodological limitation to his analysis. While natives might have had potentially equal, reciprocal relations with Europeans in conceptual terms, much of that native agency goes unrecorded in the archives. That archival lacuna exists for two main reasons. First, such agency was by definition subversive and therefore consisted of surreptitious practices, potentially recorded only when apprehended. Second, the terms of reference of such agency might be so foreign to Europeans as to escape recognition as being subversive—such as irony being mistaken for ingratiating flattery—and therefore might not be recorded or, if recorded, might perhaps not subsequently be recognized as subversive by Western or West-

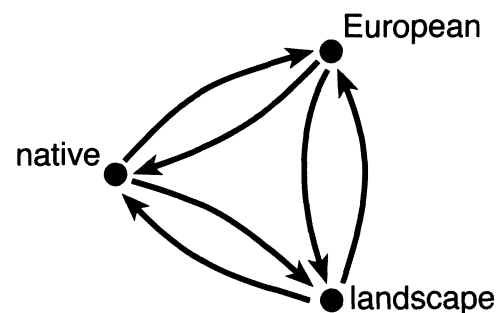


Figure 5. Conceptual structure that assumes reciprocal and potentially equal interactions among all three elements.

ernized scholars. "Can the subaltern speak?" from between the lines of colonial documents has therefore been a persistent epistemological question in postcolonial studies (Spivak 1988; Mallon 1994, 1995). The most daunting answer has been that, indeed, the "subaltern cannot speak"—at least, not very much (Spivak 1988, 308). Limiting analysis to colonial documents certainly exacerbates the issue. Recovering precolonial categories and practices clearly demands study of relict landscape morphologies and artifacts in addition to documents, the recent discovery of precolonial agricultural fields in B.C. being a prime example of that necessity and one that has profound implications for understanding of precolonial land use in that region (Deur 1997). And such methods, in conjunction with study of archival materials and oral history, are equally applicable and necessary to the recovery of colonial, particularly native colonial, categories and practices.

However, that methodological issue raises a deeper epistemological one in that, except at broad scales of analysis and in general terms, Harris tends to minimize the biophysical aspects of material/conceptual processes and the agency of landscape. He certainly recognizes that, beginning with a devastating smallpox epidemic around 1782, native depopulation due to epidemics resulted in a landscape that seemed untrammelled wilderness to Europeans by the time resettlement began in earnest in the late nineteenth century. The landscape itself thus visually validated the regional expression of the myth of emptiness. Representations of precolonial natives and their landscapes emerged out of late nineteenth-century ethnographies based on natives who had already undergone a dramatic transformation due to a devastating series of epidemics and who were anything but representative of eighteenth-century natives (Harris 1997, 28–29). The ethnographers' eldest informants related childhoods that postdated major depopulation and conveyed the impression that native population had always been low. Those more directly concerned with landscape than ethnographers, such as the geologist George Dawson (Willems-Braun 1997), recorded a moribund landscape. Its vestigial patterns of settlement and resource use could have been no more than a shadow of the past, and they directly influenced representations of native villages as isolated patches in a matrix of pristine resources. That process entailed much more than a simplistic unilateral imposition of exotic categories on the landscape, one predetermined by the intrinsic nature of Europeans (Willems-Braun 1997, 16–18). Instead, it was part of an ongoing, complex, reciprocal interaction among natives, Europeans, and landscape. Despite Harris's recognition of the ways in which landscape re-

ciprocally impacted concepts, categories, and habits of thought through social/biophysical processes at the provincial scale of analysis, at the scale of the Fraser Canyon, such reciprocity disappears except for hints and he lapses into the ethnohistorical framework. The miners who came in 1858 used high-pressure jets of water to blast the soil—the "overburden"—from the terraces. That "hydraulicizing" left behind wasted land, obliterating much of the native cultural landscape and perhaps visually validating its reconceptualization as a sparsely populated wilderness and its redistribution as private property. Whether such a material-conceptual feedback process operated in the canyon and ultimately helped to relegate natives to a few small reservations remains an issue for further empirical research—research that includes biophysical aspects, in this case geomorphologic aspects, of material/conceptual processes.

Toward a Comprehensive Geographic Theory

Each theoretical framework outlined above emphasizes particular elements and relationships at the expense of others. They thus jointly yield insight into what a more comprehensive geographic theory of colonialism and landscape must include, particularly in terms of conceptual structure and scale of analysis.

Conceptual Structure

A basic lesson reiterated through comparing and contrasting the two hyperdeterministic frameworks is that defining a conceptual structure by naming and distinguishing among elements is an epistemological necessity, rather than an ontological assertion that the elements can somehow exist independently of their relations to each other. Clearly, native, European, and landscape come into being through processes of colonization that relate those elements to each other, and those elements change by virtue of those processes rather than by virtue of some sort of autonomous, internal dynamic—by what some would call their "intrinsic natures." For example, an environmental determinist would characterize the establishment of plantations in the tropics as a natural consequence of their climate, just as the dispossession and suffering of natives would be a natural consequence of being native, a categorical condition rather than a relationship. Ontologically, therefore, the dynamic processes relating the three elements to each other together constitute the process of colonization. The elements themselves constitute the changing manifestation of that process as reflected in the three primary faces of

colonialism, each being internally heterogeneous, of course. And the changing heterogeneity of the elements constitutes the changing parameters that enable and constrain ongoing processes of transformation. For example, on racial criteria, the European and native elements might both become transformed through miscegenation, a biological process that transfers matter and information between the gene pools of the two elements and thereby transforms both of them. As both elements become predominantly mestizo, the biological process becomes less and less consequential relative to social processes of transformation such as syncretism or acculturation. Epistemologically, however, in order to discern and understand such transformative processes and their dynamics, analysis must distinguish elements from each other as well as from their relations. The process of miscegenation, for example, remains impossible to analyze without first conceiving of at least two gene pools and their propinquity in a landscape.

Significantly, the colonial triangle does seem to exhaust the elements and relationships intrinsic to the colonization process. Indeed, two of the frameworks analyzed through comparison failed to distinguish the native from the landscape element, treating the two as a lumped environment element (Figures 2 and 3). The ethnohistorical framework does satiate the colonial triangle in terms of elements, but it applies different a priori assumptions to each side of the triangle (Figure 4). Environmental determinism applies to the native-landscape side, cultural determinism to the two others. In contrast, the conceptual structure stimulated by postcolonial studies, which I exemplify through Harris's recent B.C. research, treats all three elements as epistemologically distinct and, potentially at least, related to each other through reciprocal processes that are equal in both directions (Figure 5).

Thus, applying the same epistemological standards to each element and to each side permits, by definition, unbiased analysis. Conceiving of reciprocal processes as potentially equal in both directions certainly recognizes case-to-case empirical variation in the relative impact of one element on another but also recognizes that a priori privileging of one element or relationship over others can result in specious determinisms. In the case of the first century of colonialism in the Caribbean, for example, the European element had the ultimate unidirectional impact on the native element: the native peoples of the Antilles were extirpated through processes of labor exploitation and introduced disease (Cook 1998). Yet what seems so obviously a unidirectional process cannot be universalized, and therefore the dominance of Europeans cannot be privileged in any theory purporting to be comprehensive. After all,

even in the case of the Caribbean, by the time Columbus returned on his second voyage the Taino had extirpated the three dozen Spaniards he had left behind in 1493 to garrison Navidad (Sauer 1966, 33, 72). Such case-to-case variation in the relative impact of one element on another thus remains an empirical issue and in no way justifies a priori bias that assumes native agency to be relatively inconsequential (Figure 4), that assumes the results of the colonization process to be immanent to Europeans (Figure 3), or that assumes environment to be determinative (Figure 2).

While none of the comparisons suggest that any necessary elements or relationships are missing from the colonial triangle, adding more of both to any model is always possible. The issue is whether three elements are sufficient. More narrowly defining or closely specifying elements by splitting and multiplying them would certainly permit more complex analyses—but only if appropriate data are available, and perhaps only at the cost of an incomprehensible welter of interrelationships. In an effort to more closely approach the complexity of reality, a triangle that becomes a square and then a pentagon soon becomes a hyperpolygon that, through reductionism, obscures integrative understanding. For example, the use of “native,” instead of making the heterogeneity of that element explicit through the naming of hundreds of ethnic groups, facilitates rather than obscures understanding of the fluid, contested, and ambiguous relationships involved in such namings (Klor de Alva 1995). Ultimately, whether more elements become necessary remains to be worked out through research that applies the colonial triangle to particular cases. For the time being, since only one of the prior and existing frameworks even begins to satiate the conceptual structure of the colonial triangle, its three essential elements and their interrelations seem sufficient as well as necessary.

The conceptual structure that Harris' B.C. research exemplifies only weakly begins to demonstrate that all three sides of the triangle encompass both material and conceptual processes. For example, along the native-European side, as introduced epidemic disease materially reduces native population, Europeans might conceptually transform the surviving natives into a “dying race.” The processes relating the landscape element to the native and to the European elements are also both material and conceptual because people transform landscape through processes of labor *and* categorization, and the resulting landscape patterns influence the habits of practice *and* thought that structure such processes as well as the conflicts of practice *and* thought that change structures, either catastrophically or secularly. For example, as

Europeans accumulate space at the expense of natives, native land-use practices such as annual burning might contract and vegetation succession processes create a more closed forest. Material transformations thus create a landscape morphology that catalyzes Europeans to transform that landscape conceptually into a “pristine wilderness” and the natives into “preagricultural savages,” thus facilitating the further material accumulation of space by nonnatives. The material/conceptual character of those processes and of the three elements requires explicit stipulation (Figure 6).³

Partially because B.C.’s colonization occurred so recently, with sovereign British power ending only in 1871 upon confederation with Canada, the B.C. case also stimulates further terminological consideration beyond the original modification of Hulme’s “land” to “landscape.” For example, the term “European” hardly applies to the many U.S. citizens (Euro-Americans) who participated in the Cariboo Gold Rush of 1858. Replacing Hulme’s other two apical terms with “nonnatives” and “natives” thus immediately achieves a more inclusive framework than Hulme’s more restricted purpose required. The term “nonnatives” subsumes greater heterogeneity in that element by potentially including European colonizers as well as their associates, voluntary or not—for example, indentured servants or slaves. Appropriate assignment of any individual or group to the nonnative element versus the native element seems relatively clear for periods immediately following the encounter between nonnatives and natives in any particular region but becomes increasingly problematic with protracted miscegenation, acculturation, syncretism, maroonism, resettlement, indirect rule through Westernized “native” elites, and other processes that blur the distinction. However, making that distinction is as necessary as it is difficult, be-

cause natives and nonnatives played clearly opposing roles in the colonization process, with one element’s gain in power and space typically being the other’s loss. Despite that oppositional relationship being so basic to colonialism, some analyses of colonialism have tended either to ignore ethnicity and its manifestation as a suite of cultural variables or to elevate culture to the level of an independent variable, explaining everything and nothing at the same time. Thus, economism subjugates ethnicity and culture, as well as gender and sexuality, to class (Wolfe 1997), and culturism invents a “culture of poverty,” a “race of poverty” darkly lurking in the conceptual shadows (Lewis 1966).

Precursors for an integrated understanding of material/conceptual transformation certainly exist in the human-environment literature on the Americas but none that explicitly theorize colonialism and landscape. Sauer’s 1966 study of *The Early Spanish Main* remains a prominent example that explicates how Caribbean peoples and landscapes became remade and reconceptualized, from initial idiosyncrasies to final codification (Sluyter 1997). “Loot” became the rubric inscribed over the landscape element, “puerile labor” over the natives. In the gold placers, those categories intersected in the destructive logic that consumed thousands of native lives. The Spaniards materially and conceptually erased the highly productive precolonial cultural landscape and created a naturalized landscape of reforested native fields that “appears primeval” (Sauer 1966, 68). The ecological traditions that derive to greater or lesser degree from Sauer’s stimulus have tended only partially to build on that foundation, stimulated more in terms of general topic than of approach (Blaikie and Brookfield 1987, 25–26). As already noted, both cultural and political ecologists have tended to emphasize material over conceptual processes. At the same time, cultural ecologists have emphasized analysis of the relationship between natives and landscapes at local-to-regional scales while sacrificing analysis of the relationship between natives and nonnatives, particularly at the global scale (Butzer 1989). In contrast, political ecologists have emphasized the relationship between natives and nonnatives at local-to-global scales, as well as the heterogeneity of each element (especially along class and gender lines), but with landscape all too typically becoming reduced to aspatial “land” (Bryant 1992). As one example of these intellectual tendencies, much of the effort at native demographic reconstruction has focused on reconstructing the pattern of precolonial population rather than on the process of colonial depopulation, perhaps because reconstructing precolonial patterns is basic to subsequent study of colonial processes (Denevan 1992b). Significant exceptions

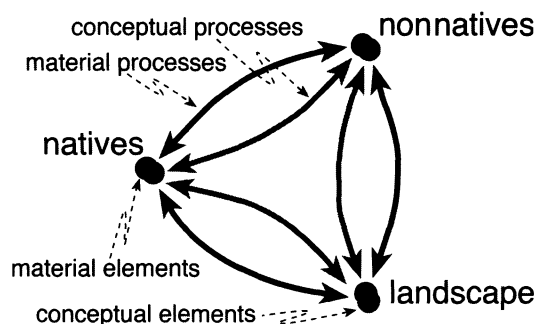


Figure 6. Conceptual structure with epistemological separation among all three material-conceptual elements and with potentially equal, reciprocal, material/conceptual processes relating those elements. The diagrammatic distinction between the material and the conceptual realms does not signal ontological separation.

to those tendencies certainly exist, such as research on native demography during the colonial period (Lovell 1992) and integration of analysis of conceptual process (Hecht and Cockburn 1989). Yet only relatively recently has the intellectual space for a more integrated, comprehensive perspective and balanced conceptual framework emerged, one that can draw on the range of geography's complementary traditions while integrating with post-colonial theory (Zimmerer 1994, 1996).

Scale of Analysis

The analysis of contrasting conceptualizations also uncovers the significance of analytic scale in terms of the relative impact of one element on another, illustrated through the example of the extirpation of Spaniard by Taino versus the extirpation of Taino by Spaniard in the Caribbean (Sauer 1966). Clearly, as well as being an empirical issue, apparent variation in relative impact of one element on another relates to the scale of analysis. In the one case, Taino extirpated Spaniard at the temporal scale of months and the spatial scale of a locality (although extirpation in that single locality at that time happened to equate with extirpation of all Europeans in the Caribbean). In the other, Spaniard extirpated Taino at the temporal scale of decades and the spatial scale of the Caribbean. Applying the colonial triangle more systematically across the scale continuum provides perspective on the scale of analysis appropriate to meeting the objective of a comprehensive theory of colonialism and landscape.

Toward the global-to-continental end of the scale continuum, the process that operated most dramatically and pervasively was epidemic disease (Figure 7). Intro-

duced diseases such as smallpox ultimately did more to materially and conceptually transform the landscape of the Americas than any other single process. As disease vastly reduced native population, desettlement resulted in changes in land use and vegetation patterning. Non-natives eventually recategorized the moribund cultural landscape that they had resettled as a "pristine wilderness." Several generations of scholars have conducted regional-to-local scale studies and continental-to-hemispheric syntheses that, despite ongoing controversies over data and interpretations, have established that general model for the Americas (Denevan 1992a; Turner and Butzer 1992). However, application of the colonial triangle at that scale obscures so much regional variation in both the elements and the processes that it cannot facilitate understanding of specific regional transformations or their continuing consequences.

A suite of regional case studies that span the range of colonial contexts might generate such understanding as well as address specific social and environmental challenges. The Veracruz (Sluyter 1999) and B.C. (Harris 1997) projects begin to illustrate the potential of such analyses. In both, much remains conjectural and subject to continued research. However, in contrast to application of the colonial triangle at the global-to-continental scale, application at the regional-to-local scale can actually generate testable hypotheses, such as that hydraulicing played a major material/conceptual role in the colonization of the Fraser Canyon and continues to affect the way it is conceptualized and used in the present. Others have likewise noted that geographers can make their greatest contributions by focusing research toward the regional-to-local end of the scale continuum without ignoring the need to integrate understanding across scales of analysis (Meyer et al. 1992, 266). In that effort, processes analyzed at coarser resolutions—at global-to-continental scales—provide context for models of landscape transformation at the regional-to-local scale. For example, the global process of smallpox virus evolution and diffusion that began thousands of years before that disease reached the Americas does not directly bear on processes of colonial landscape transformation in Veracruz or B.C. However, it does explain why smallpox proved so virulent among natives in both regions and thus provides important context. At the same time, processes analyzed at finer resolutions become abstracted into models of landscape transformation at the regional-to-local scale. The process through which the smallpox virus enters the respiratory tract, multiplies in the cells of the internal organs, and within days causes a rash of pustules and then death also does not directly bear on understand-

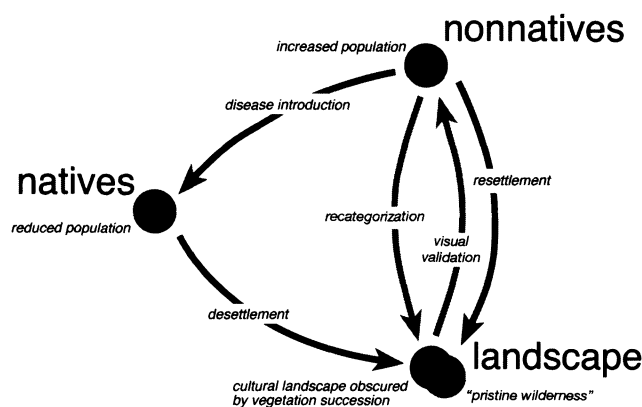


Figure 7. The colonial triangle applied at the global-to-continental end of the scale continuum, to the Americas as a whole, with selected material/conceptual processes and characteristics of elements indicated. See Figure 6 for key to symbolization.

ing process of colonial landscape transformation in Veracruz or B.C. either. It is, however, the horrible way in which thousands upon thousands of people died.

Prospects

Subsequent elaboration, modification, integration with research on more architectonic landscapes, and extrapolation to colonial realms beyond the Americas will require an ongoing collaborative effort that perhaps completely reformulates this quite tentative proposal. At a minimum, however, geographers can collaboratively further understanding of the continuing consequences of colonialism by testing the limitations of the colonial triangle, as diagrammed in Figure 6, through application to a suit of complementary case studies at the regional-to-local scale.

Optimism

Selecting a coherent group of complementary case studies requires inclusion of the range of cultural and environmental contexts. Each case should differ in terms of the dominance of particular processes because of different social relations, economies, environments, periods of colonization, and so on. Such a group of case studies would permit the identification of types of regional material/conceptual formations, each having undergone distinctive transformative processes and each being involved in particular ongoing social/environmental challenges. To illustrate, settler and extractive colonization would have entailed distinct material/conceptual interactions among natives, nonnatives, and landscapes. Settler colonization is associated with a landscape transformation that removes natives and accumulates space for nonnatives, while extractive colonization is associated with a landscape transformation that exploits native labor (or nonnative forced labor). In terms of racial categorizations alone, in relation to such material transformations of landscape and labor, the natives of North America impeded space accumulation and became a “dying race with a naturally weak constitution” while African Americans labored on plantations and became a “fecund race endowed with a primal virility and sense of rhythm” (Wolfe 1997, 419). Strikingly, Australian aborigines, while as dark-skinned as African Americans, also impeded European space accumulation and became as much a “dying race” as Native Americans. Moreover, in both Australia and North America, one of the environmental consequences of native desettlement has been a radical change in fire regimes, with continuing effects on vegetation composition. For example, the U.S.

Northeast experienced an alteration of fire regimes due to native depopulation in mixed oak forests, cessation of native-set fires to manage vegetation and game, and consequent diffusion of a European fire suppression paradigm (Pyne 1997, 30; Sluyter, Ruffner, and Adovasio 1998). The associated shift in fire frequency and intensity seems to be materially related to the now ongoing replacement of oaks by later successional species such as red maple as well as conceptually to opposition to the implementation of the prescribed burning that might reverse that trend. A similar material/conceptually process has and continues to affect Australian landscapes (Flannery 1994). While such generalities are at present mainly discernible at the global-to-continental scale of analysis, they should become clearer with the application of a consistent theoretical framework such as the colonial triangle to a range of case studies at the regional-to-local scale.

Relevant data to operationalize the colonial triangle must also be available for each case study. Data availability is in part as much a matter of method as of existence, as demonstrated by the analysis of land grants in the Veracruz case study (Sluyter 1999). While relatively mature methods are available to analyze the quadrangular land surveys associated with parts of North America, particularly to determine the vegetation at the time of survey, spatially analyzing the land grants of New Spain first required development of appropriate methods (Butzer and Butzer 1993; Melville 1994; Sluyter 1998). Similar innovations will no doubt be necessary for other case studies since operationalizing the colonial triangle will require new types of data and analysis. Moreover, dynamical methods to represent complex material-conceptual feedbacks at the regional-to-local scale of analysis—not even attempted in this article for either the Fraser Canyon or the Veracruz case—require development. And, ultimately, integration of regional case studies at the hemispheric scale will also require development of appropriate methods of analysis and representation that can encompass material/conceptual processes, patterns, and dynamics.

All of those tasks go well beyond the expertise of any single scholar—even a geographer. Defining a suite of complementary case studies for the Americas alone will require collaboration. Developing the data sources and analytic methods will require intensive, perhaps multidisciplinary focus on each case study. And developing integrative methods will require involved methodological expertise that can translate among the complexities of the case studies.

Application beyond the Americas will require even broader collaboration. This article has emphasized the

Americas, but research on the other major realms of European colonialism has produced indications of the emergence of a similar conceptual framework to the one outlined here. Urban landscapes have formed a focus, but highly nuanced research on the relationships comprising the colonial triangle is becoming increasingly common in a wider range of contexts (Duncan 1990; 1993, 371; Leach and Mearns 1996; Myers 1998). Despite very different colonization processes in the Americas, Africa, and Asia, some similarities suggest promise for broader application of the colonial triangle. For example, dramatic depopulations due to introduced epidemic diseases were certainly not as pervasive in Asia and Africa as in the Americas, but depopulation due to enslavement and forced emigration was regionally consequential. Moreover, a geographic theory of colonialism and landscape should also apply to Europe itself. Most basically—and by now relatively clearly—colonialism has entailed a reciprocal relationship between natives and nonnatives not only within colonies but at a global scale (Blaut 1993; Said 1993; Grove 1995). Less clear—and certainly less studied under the rubric of colonialism and landscape at the regional-to-local scale—is the process through which an increasingly homogenous, metropolitan agronomy and forestry displaced local agroecological knowledge, practice, and tenure in Europe itself as urbanization, industrialization, and enclosure paralleled overseas colonization.

Pessimism

Clearly this brief essay presents more than a modest proposal. Yet, the theoretical lacuna of colonialism and landscape is as compelling as it is vast, and filling it remains an outstanding disciplinary obligation because colonialism has so many continuing social/environmental consequences. Moreover, equally ambitious proposals have already been pursued and their goals fulfilled—with, for example, “A Macrogeography of Western Imperialism” (Meinig 1969). And it is exactly those ways of understanding that now encroach on the edges of the theoretical lacuna with Pulitzer Prize-winning determinisms—not with cultural, environmental, and racial determinism all in the same package (Meinig 1986; Diamond 1997; Landes 1998), of course, but all underpinned by the same Eurocentric teleology (Blaut 2000). And they will continue to dominate the academy, mystify understanding, and stultify policy until geographers motivate themselves to undertake a collaborative effort to generate compelling alternatives through formulation and testing of a comprehensive theory of colonialism and landscape.

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Notes

1. These terms have come to have such restrictive meanings, yet ones that vary among literatures, that the complement to material landscape transformation is better communicated by the phrase “conceptual landscape transformation” (Sluyter 1999). This phrase clearly identifies transformations that relate to what exists in the mind.
2. According to Pratt (1992, 32), the full typology includes six races of *Homo sapiens*: (1) Wild Man; (2) American; (3) European; (4) Asiatic; (5) African; and (6) Monster.
3. In contrast to Harris, other recent research on B.C. also influenced by postcolonial studies almost entirely ignores material processes (Willems-Braun 1997; Sparke 1998; Clayton 2000). Striking (but unacknowledged) commonalities exist between that B.C. representationalist school and the school of historical geosophy that J. K. Wright founded more than fifty years ago in order to study changes in knowledge about places (Wright 1947; Lowenthal and Bowden 1976). Bowden (1992), the historical geosopher who has done most to explicate the emergence of the myth of emptiness for the U.S., strongly emphasizes nonnative imposition of representation on landscape, doing little to investigate material-conceptual feedbacks and easily fitting into the ethnohistorical conceptual structure. The B.C. representationalists also largely focus on the imposition of representations on landscapes, albeit with more emphasis in some cases than in others on the struggle between natives and nonnatives over those representations (Sparke 1998). The B.C. representationalists are certainly not idealists; in fact, they are rather fond of pronouncements such as “we must always attend to [Nature’s] making—rhetorically and materially, and the two always together” (Willems-Braun 1997, 25). Yet actions have not matched homilies; their analyses of material processes have been limited to, for example, sketchy accounts of courtroom architecture in relation to a native land claim trial (Sparke 1998, 471–72).

These representationalists have the potential to contribute much to a comprehensive theory of colonialism and landscape and improve understanding of how, for example, “maps contribute to the construction of spaces that later they seem only to represent” (Sparke 1998, 466). Doing so, however, would require engaging material processes as thoroughly as they have engaged conceptual ones, and it would require forgoing what seems to be an effort to elide prior geographical research in order to construct a theory-free space that can then be filled with a theorization effect. By integrating postcolonial theory into geographical research, no matter how critically, the B.C. representationalists would be able to build on a rich intellectual heritage of studying social/biophysical processes that has made unique empirical and theoretical contributions to understanding landscape (Sluyter 1997).

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